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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/618,885 | 07/14/2003 | John F. Zumkehr | 42P8827D | 5877 |

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EXAMINER

ELLIS, KEVIN L

ART UNIT PAPER NUMBER

2188

DATE MAILED: 08/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/618,885

Applicant(s)

ZUMKEHR ET AL.

Examiner

Kevin L. Ellis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/14/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/14/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/29/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Detailed Action

1. Claims 31-51 are presented for examination.
2. Information disclosed and listed on PTO 1449 has been considered.

Claim Rejections – 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 31-36 and 40-51 are rejected under 35 U.S.C. § 102(e) as being anticipated by Ryan, U.S. Patent 6,449,679.

A) As to claims 31, 32, 33, and 34, Ryan discloses the invention as claimed. There is a memory control translator comprising a first bus interface (see Fig 4 lefthand side from 'Controller NORTH BRIDGE'), a second bus interface coupled to system memory (see Fig 4 righthand side 'TO DIMMs'), a command decoder and generator (Fig 4 Ref 140, 146, 158, & 150), at least one data buffer/FIFO (Fig 4 Ref 160 and 162), at least one address buffer/FIFO (Fig 4 Ref 152), and the memory control translator does synchronize commands, data, and addresses between the memory control unit and the system memory (Abstract and Col 1 Line 65 to Col 2 Line 37).

- B) As to claim 35, the address buffer does buffer column and row addresses (see Col 5 Lines 39-47).
- C) As to claims 36 and 40, the system does connect an RDRAM memory interface to SDRAM memory (see Col 1 Line 65 to Col 2 Line 37).
- D) As to claims 41 and 46, the limitations of these claims have been addressed with respect to claims 31, 36, and 40 above and the rejection applies here as well.
- E) As to claims 42-45, the limitations of these claims have been addressed with respect to claims 32-35 above and the rejection applies here as well.
- F) As to claims 47 and 48, the limitations of these claims have been addressed with respect to claims 31, 36, 44, and 45 above and the rejection applies here as well.
- G) As to claim 49, the limitations of this claim has been addressed with respect to claims 36 and 40 above and the rejection applies here as well.
- H) As to claim 50, the limitations of this claim has been addressed with respect to claims 32 and 33 above and the rejection applies here as well.
- I) As to claim 51, the limitations of this claim has been addressed with respect to claims 34 and 35 above and the rejection applies here as well.

Claim Rejections – 35 USC § 103

5. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary

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skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 37-39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ryan, U.S. Patent 6,449,679, in view of Mote, Jr., U.S. Patent 5,666,494.

A) As to claims 37-39, Ryan discloses the invention substantially as claimed. However, Ryan does not disclose the claimed read bypass where data stored in the write buffer is checked when a read access happens and if there is a match between the read address and the write address the matching data corresponding to the read address is provided from the write buffer.

Mote, Jr. teaches a memory controller with a write buffer that will perform the read bypass stated above (Col 9 Lines 29-54). Mote, Jr. teaches that this provides an advantage as the microprocessor can get requested read data faster and start process this data without having to wait for pending write requests to happen (see Col 9 Lines 29-40).

Accordingly it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teachings of Mote, Jr. with the system of Ryan and provide a read bypass for the write buffers of Ryan for the advantages stated by Mote, Jr. above.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin L. Ellis whose telephone number is 703-305-9659. The examiner can normally be reached on weekdays from 6:00AM-2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on 703-306-2903. The fax phone numbers for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Kevin L. Ellis
Primary Examiner
August 10, 2004

Kevin L. Ellis